



# Naval Medical Research and Development

## Enterprise Laboratories

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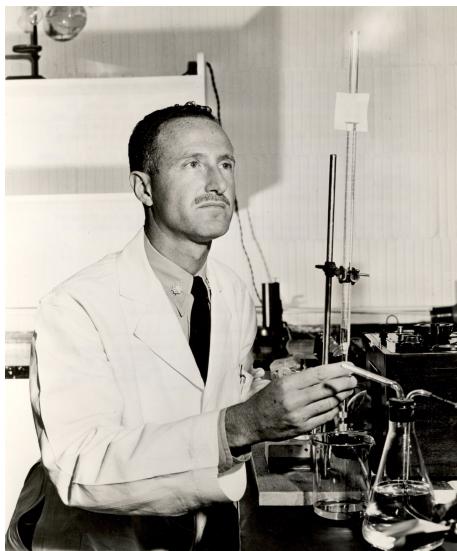
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## News Releases

### R&D Chronicles: Dr. Krueger and the Story of the First NAMRU

Released: 8/21/2017

By André B. Sobocinski, Historian, BUMED



On January 31, 1941, the U.S. Navy mobilized a small medical research laboratory on the campus of the University of California at Berkeley under the helm of Capt. Albert Paul Krueger (pictured), Medical Corps, United States Naval Reserve (1902-1982).

*“. . .there is a great advantage in having an activity such as this one associated with a large university. The fact that specialists of all sorts on the Faculty are available for consultation from time to time expedites the work of the Unit . . .”*

**~Capt. Albert P. Krueger, MC, USNR to Vice Adm. Ross McIntire, Surgeon General, March, 1942**

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On January 31, 1941, the U.S. Navy mobilized a small medical research laboratory on the campus of the University of California at Berkeley under the helm of Capt. Albert Paul Krueger, Medical Corps, United States Naval Reserve (1902-1982). Originally authorized by the Bureau of Medicine and Surgery (BUMED) on October 1, 1934, this Naval Reserve Laboratory Research Unit No. 1, as it was known, had been the brainchild of Krueger – a forward-thinking bacteriologist and expert on respiratory diseases.

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Krueger held that communicable diseases, namely influenza, posed a significant health threat for the Navy. After all, Krueger had lived through the deadly Influenza Pandemic of 1918-1919 that killed millions of people across the globe. In 1918 alone, influenza accounted for 30 percent all naval hospital admissions; the very same year influenza was responsible for 44 percent of all deaths in the Navy. For Krueger the next influenza pandemic could be even more crippling to the Armed Services and directly impact wartime readiness.

Krueger would employ a brain trust of some of Berkeley's finest biomedical specialists—physicians, scientists and technicians, all serving in the Naval Reserve. With the Navy's financial backing, the unit would conduct research, gather information on military medical problems and train military personnel in research techniques.

Through an agreement with the president and regents of the university, the laboratory was established in the Life Sciences Building and consisted of: an office and laboratory for the officer-in-charge; an office for executive officer, statistician and assistants; a serology laboratory; a laboratory for general virus work; a room for autoclaves and normal animal colony; a room for tissue culture work; a room for an infected animal colony; and two rooms for “special equipment” (e.g., magneto-oscillator and cryochem dessicator).

Within the first 14 months of mobilization, the lab had organized a series of studies on epidemic influenza, developed a rapid detection technique for influenza viruses, conducted a monumental study on air-borne infections on Navy and Marine Corps shore stations, prepared emergency stocks of types A and B influenza virus vaccines for use on the West Coast, investigated natural immunity against influenza viruses, and studied the curative properties of chemotherapeutic agents against influenza in laboratory models.

Beginning in 1942—in one of its most notable wartime projects—laboratory scientists worked on developing an immune serum for influenza. Scientists grew type A and B viruses in chicken embryos, and used them to “hyperimmunize” a retired race horse kept on the university campus. The anti-bodies produced in the horse’s blood were drawn off and used to create an influenza antiserum which would be vaporized and inhaled into the lungs to form a “protective coating which nullifies the maleficent effect of the influenza virus.”

Although Krueger’s idea to test the serum on prisoners at San Quentin was rejected by the Surgeon General of the Navy himself, naval medical leadership recognized the value of what had been intended as nothing more than a reserve unit. Foreseeing the active role it would continue to play post-war, BUMED cemented its status as an active command on January 17, 1944, renamed it the Naval Medical Research Unit (NAMRU) No. 1 and elevated Krueger from “Officer in Charge” to “Commanding Officer.” Over the next two years, other Naval Medical Research Unit’s (NAMRUs)—each built on the premise of Capt. Krueger’s Berkeley lab—would be established in Guam, Cairo, Egypt, and Dublin, Georgia.

Krueger left NAMRU-1 in 1946 to serve as the first Science Director of the UC Berkeley-based Naval Biological Laboratory (NBL). But even in its founder’s wake, NAMRU-1 would continue to execute a robust research program.

In the 1950s and 1960s, the unit established a program for improvement and standardization of the Armed Forces plague vaccine; it developed and field tested a portable virus identification

## Program

NAMRU-SA Research Dentist Competes for IRONMAN "All World Athlete" Status

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NMRC Participates in Second Biennial Department of Defense Lab Day

system aboard submarines; invented medical devices for tracking dispersal of aerosols and measuring small amounts of moisture in dried cultures; and collaborate with the NBL to study parasite relationships, the spread of airborne infections, and organism characteristics.

In 1969, the NAMRU-1 established one of the first *Neisseria* repositories in the world for studying meningitis and for developing antiserums that would be shared with other Navy Medical Research laboratories, preventive medicine units and used to aid future researchers in studies of meningitis epidemiology, pathogenicity, immunity, serology and genetics.

But despite all of its achievements NAMRU-1's days would be numbered. As part of a larger effort to restructure and consolidate the medical research community, NAMRU-1 was disestablished on June 30, 1974.

Although the NAMRU-1 name was never used again, its role as a standard bearer in military and biomedical research is one that should not be forgotten.

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